

IV. *Additions to the knowledge of the Cetoniidae of British India.* By OLIVER E. JANSON, F.E.S.

[Read February 7th, 1917.]

THE basis of this contribution is an interesting and well-preserved series of Indian *Cetoniidae* collected by the late Captain R. Selous, and placed in my hands for identification by his brother, Dr. C. F. Selous, who has most generously allowed me to retain any of the specimens that I desired for my collection. A list of the species with the collector's notes that accompany them is given below, followed by a description of the very pretty new *Anatona* that he had the good fortune to discover.

I have taken this opportunity to describe three other new Indian species that have recently come into my possession from other sources, and of giving references to the additions that have been made to the family since the publication, in 1910, of the admirable volume by Mr. G. J. Arrow, on the *Cetoniidae* of the "Fauna of British India." I have also added some notes on a few errors and omissions in that work, and relative to the subject of this contribution.

LIST OF THE CETONIIDAE COLLECTED BY THE LATE  
CAPTAIN R. SELOUS.

1. *Anthracophora crucifera*, Oliv.

Mhow. "On grass, September 1905," one specimen.

A common and widely distributed species, but not hitherto recorded from Central India.

2. *Anatona selousi*, n. sp.

Mhow. "Found on Nil Gai dung, July 15th, 1905," one specimen.

Of this very distinct and pretty new species a single male example only was found by Capt. Selous.

3. *Aethiessa bagdadensis*, Burm.

Quetta. "Found flying and on the ground, March 11th, 1907," two specimens.

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A rather scarce species, occurring in Armenia, Mesopotamia, Persia and Afghanistan, and already recorded by Arrow from Baluchistan.

4. *Protaetia (Potosia) impavida*, Jans.

Kashmir. "On flowering bush, July 1906," one specimen.

This species appears to be confined to the northern parts of India and is not common.

5. *Protaetia (Potosia) neglecta*, Hope.

Bandipur Nallah, Kashmir. "On flowering bushes, July and September 1906," three specimens.

A common and somewhat variable Indian species, with a range extending northwards to E. Turkestan.

6. *Protaetia (Eumimimetica) terrosa*, G. P.

Near Mhow. "July 27th, 1905," one specimen.

7. *Protaetia alboguttata*, Vigers.

Mhow. "On grass and flowering plants and flying to lamp, June to August, 1905," nine specimens.

A common and generally distributed Indian species extending into Ceylon, but not before recorded from Central India. Capt. Selous' series include blue, green and fine coppery-red varieties.

8. *Oxyctonia versicolor*, Fab.

Mhow. "On Date Palms, July 7th, 1905," two specimens.

Capt. Selous' specimens of this very variable and widely distributed species are the typical form (the "var. a" of Arrow), with a shining upper surface, and the prothorax and elytra extensively adorned with red.

9. *Chiloloba acuta*, Wied.

Mhow. "On grass, August and September 1905," four specimens.

10. *Epicometis hirtella*, Linn.

Quetta. "Eating Iris flowers, March and April 1907," nine specimens.

This species is an addition to the list of Indian *Cetoniidae*. The very closely allied *E. squalida*, Linn., is recorded by

Arrow from the same locality; both are common European species and of wide distribution, ranging through Asia Minor, Mesopotamia and western Persia to Baluchistan, where the Indian fauna assumes a very Palaearctic character. All Capt. Selous' specimens have a second white spot on the outer discal costa, a little before the middle of the elytra, that I do not find present in any of the many European examples that I have had an opportunity of examining.

*Anatona selousi*, n. sp.

♂ Body of an oval, compact and convex form. Castaneous, shining; base of head, the prothorax and elytra testaceous red, opaque, and with shining castaneous markings disposed as follows: On the prothorax a marginal band on each side, and eight small spots, viz. three placed in a nearly regular longitudinal row on each side of the disc and two in the middle (both prolonged anteriorly with a tendency to form a median stripe); on the scutellum an apical spot prolonged anteriorly; on each elytron eight spots, viz. one in the middle near the base, one near the suture and just before the middle, one about equidistant between the last and the apex and close to the suture, and four adjoining the outer margin, the first at the lateral sinus, the second and third (both small) behind the middle and the fourth close to the sutural angle. The pygidium and the sides of the prothorax, sternum and abdomen with irregular chalky-white markings. Head somewhat flattened between the eyes, coarsely and confluent punctured; clypeus long, narrowed in front, with a slight median carina and slightly produced and strongly reflexed angles. Prothorax nearly as broad in the middle as at the base, strongly narrowed in front, the base feebly tri-sinuate and with the lateral angles rounded; the disc with a very fine and sparse puncturation which becomes coarser and very much closer in front and towards the sides. Scutellum large, slightly rounded at the sides, impunctate. Elytra feebly bi-costate, with six discal rows of small and rather remote punctures, the sides with scattered fine punctures and the apex slightly strigose. Pygidium sparsely setose and remotely punctured, transversely strigose only in the middle. Underside thinly clothed with yellowish-grey pubescence and punctured at the sides; metasternum with an impressed median line; sternal process broad, rounded and with an impressed hirsute line just before the apex; abdomen with a broad central depression. Legs stout, anterior tibiae with two large marginal teeth, and the apex rather obtuse, all the femora and tibiae thinly fringed with long golden-grey hair. Length 17 mm., breadth 9 mm.

MHOW (Type, coll. Janson); POONA (coll. British Museum).

Apart from the very peculiar coloration this pretty species differs from its nearest ally, *A. alboguttata*, Burm., in its narrower and less convex form, in having the prothorax more abruptly narrowed in front, the clypeus more strongly carinate and the pygidium strigose only in the middle. The darker markings on the upper side are produced by the absence of the lighter coloured opaque indumentum, that covers the other parts of the surface, leaving the derm exposed and with a talc-like lustre.\* I have named the species after the discoverer, the late Captain R. Selous.

***Clerota rigifica*, n. sp.**

Black and very shining above and below, with orange-yellow markings comprising a median stripe on the head, a marginal band on each side and a median stripe on the prothorax, a spot occupying nearly the whole of the scutellum, a broad and slightly sinuous longitudinal stripe on each elytron and a large triangular patch on each side of the pygidium. The sides of the mesothoracic epimera, metathoracic episterna and post-coxae, and a large spot at the sides of the first to fourth abdominal segments are also orange-yellow.

Head finely and sparingly punctured in the middle, more coarsely punctured in the lateral furrows, clypeus slightly sinuous at the sides and distinctly widened in front. Prothorax almost as broad as the elytra at the base and obliquely narrowed to the apex, broadly sulcate behind, very minutely and remotely punctured at the sides. Elytra slightly narrowed behind and separately rounded at the apex, sulcate at the suture, the middle third of the disc with several rows of more or less obsolete punctures, the sutural stria feeble and becoming obsolete before reaching the middle, the apical third of the sides and the apex very closely and deeply strigose. Pygidium broad and transversely convex, closely and concentrically strigose. Underside of the body almost entirely smooth, the flanks of the prothorax and sides of the basal abdominal segment feebly strigose;

\* A second specimen from the Shevaroy Hills, Madras, that has since come to the British Museum, has these shining spaces covered to a large extent with a dense white squamose or farinose clothing, which is apparently very lightly attached and easily rubbed off, and in my type specimen is only present to a small extent on the sides of the prothorax and on the pygidium. It would most probably be found that in freshly emerged examples the clothing entirely covered the spaces, so that the markings of the upperside would be white instead of castaneous as I have described them.

mesosternal process very broad at the base, pointed and slightly curved inwards at the apex; anterior tibiae with the two lateral teeth and the produced apex acute. Length 36 mm., breadth 17 mm.

MOULMEIN, Lower Burma (Type in *coll. Janson*).

This fine species is closely allied to *C. vittigera*, Hope, but is larger and of a more robust form, the prothorax is broader at the base and less sinuate at the sides, the elytra more parallel-sided and longer in proportion to the prothorax, and the aedeagus of the male is much broader and less constricted before the apex.

The type specimen, a male, was taken flying by the late Col. Bingham in August 1894, and I have others from Penang; Mana Riag, Sumatra; and Kuching, Borneo. This distribution would seem to indicate that it is a Malayan species with a range extending northwards into southern Burma.

*C. bodhisattva*, Kunck., an evidently closely allied species from Annam and Tonkin, and only known to me by description, is of a much larger size (44 mm. in length) and has yellow markings on the elytra only.

#### *Clerota arrowi*, n. sp.

♀ Shining black, the outer edge of the epimera and posterior coxae, and a small spot on the sides of the second, third and fourth abdominal segments orange-yellow.

Head strongly punctured, the punctures of an ovate form in front and coarser, closer and irregularly confluent towards the apex, the extreme base smooth; clypeus a little narrowed towards the apex, the apical lobes rounded and with a strongly reflexed margin, the raised side margins becoming almost obsolete before reaching the eyes. Prothorax obliquely narrowed from the base, with the sides slightly sinuous and very narrowly margined, the basal angles obtuse, the entire surface, excepting a narrow and rather indistinct median line, with a very strong puncturation that becomes more dense as it approaches the sides and strigiform close to the lateral margins, the basal lobe broad and slightly depressed but not sulcate. Scutellum slightly sulcate and smooth in the middle, punctured at the base, the apex very acute. Elytra gradually narrowed from the base and sub-truncate at the apex, the basal part very convex and smooth, strongly punctured on the median third, the punctures extending to the humeral callosity at the side and forming five or six tolerably regular rows in the middle, and one row next the suture that extends to the base, the apical declivity and the sides, behind

the middle finely and closely strigose. Pygidium and the apical dorsal segment of the abdomen finely and closely strigose, the former very prominent and feebly bi-nodose at the apex. Underside coarsely but rather sparsely punctured on the meta-coxae and sides of the metasternum; mesosternal process gradually narrowed to the apex where it is acute. Legs closely strigose on the femora and outer side of the tibiae, anterior tibia with the two marginal teeth and the produced apex very acute. Length 33 mm., breadth 15 mm.

KHASIA HILLS, Assam (Type in *coll. Janson*).

The strongly raised margins of the apical lobes of the clypeus form a semicircular rim to a pit-like cavity on either side, and coalesce with the narrow median carina at the base of the excision: this peculiarity and the strongly punctured and non-sulcate prothorax and closely strigose legs will suffice to at once distinguish *C. arrowi* from all the hitherto described members of the genus. In general aspect it most nearly resembles narrow examples of *C. budda*, G. P., that are without the usual yellow markings on the upperside.

*Pseudochalcothea ritsemae*, n. sp.

Body of a narrow oval form and deeply channelled along the median line of the upperside. Dark grass-green, shining; the sides and suture of the elytra with a reddish tinge in some lights; head, sides of the prothorax and underside golden green; antennae, palpi, tibiae and tarsi fulvous tinged in parts with green and coppery red. Head sparsely punctured, convex and smooth in the middle; clypeus a little widened in front, margined at the sides and deeply notched at the apex. Prothorax strongly narrowed in front, the sides sinuous and slightly emarginate at the basal half, the basal angles produced and sub-acute, smooth on the disc, punctured and strigose at the sides. Scutellum punctured at the base only. Elytra gradually narrowed posteriorly, separately rounded at the apex, the sutural angles a little produced and acute, some scattered fine punctures in the sutural depression and a regular row next the suture, at the sides four or five rather confused rows of punctures on the basal half and thence irregularly strigose to the apex. Pygidium prominent and closely strigose, deeply grooved and bi-nodose at the apex. Underside of the body almost impunctate; sternal process broad at the base and obliquely narrowed to a point at the apex; abdomen concave in the centre and broadly emarginate at the apex. Front tibiae slender, curved and without marginal teeth; hind tibiae on the inner side with a broad, thin and flattened



appendage curving forwards, and towards its extremity narrowed and strongly bent backwards in the form of a sharply pointed hook. Length 26 mm., breadth 12 mm.

In the female, besides the usual sexual characters, the prothorax is broader in middle than in the male, the pygidium is only feebly bi-nodose, the apex of the abdomen is broadly rounded and the last segment and the apical part of the preceding one have a coarse setigerous puncturation, and the outer apical spine of the hind tibiae is broad and bi-mucronate.

RANGOON and PENANG (Types, ♂, ♀, in coll. Janson).

This species comes nearest to *P. virens*, Ritsema, but is smaller and of a much narrower and more parallel-sided form, and has the prothorax more strongly sinuate at the sides. The male differs, moreover, in the form of the appendage of the hind-tibiae, and the female in having the pygidium sulcate and the apical ventral segment of the abdomen rounded, instead of broadly emarginate as it is in *virens*.

*P. ritsemae* is the first *Pseudochalcothea* (if kept as distinct from *Plectrone*) that has been discovered on the mainland, the genus being essentially an insular one, with its headquarters in North Borneo, and the occurrence of this species at Rangoon brings it just within the limits of the British-Indian fauna. *Plectrone tristis*, Westw., is recorded by Wallace from Penang.

*Macronota batillifera*, Bourg., Bull. Soc. Ent. France, 1914, p. 292.

This is the *flavofasciata*, Arrow (*nec* Moser), and is described by Bourgoïn as a distinct species, differing in the structure of the hind-tibiae in the male. It is recorded from Bhutan and Assam.

The "female" specimen in my collection referred to by Arrow ("Fauna Brit. Ind.," Ceton., p. 52) proves upon dissection to be a male, and is the true *flavofasciata*, Moser, from Tonkin. The females of both species are apparently still unknown.

*Clinteria sternalis*, Moser, Deuts. Ent. Zeits., 1910, p. 532.

This addition to the Indian Fauna would appear, from the description, to come nearest to *C. modesta*, Blanch., in coloration, but is stated to have the mesosternal process broad and flat, a character not found in any other member of the genus. It comes from Pegu, Lower Burma.

*Glycosia dureli*, Pouill., Insecta iv, 1914, p. 187.

From the description and figures this is evidently a slight variety of *G. luctifera*, Fairm., with markings similar to those of the Indian specimens described by Arrow. It is also from Bhutan.

THE FOLLOWING NOTES REFER TO THE "FAUNA OF  
BRITISH INDIA," CETONIINAE.

*Macronota*, p. 41.

In the synonymy and sub-genera *Coilodera*, Hope, 1831, is cited as undescribed; it was later emended to *Coelodera*, and characterised by Burmeister, Handb. Ent. iii, 1842, p. 320.

*M. diardi*, p. 43.

The two specimens referred to (p. 44) with black elytra and purple-black prothorax are in my collection, and came from the late M. Jacoby, labelled "Ceylon (W. Morton)." This locality is most probably incorrect, as I now have similar specimens, from the van de Poll collection, from Mana Riang, Sumatra, and this form has since been described as a distinct species, under the name *maindroni*, by Bourgoin, Bull. Soc. Ent. France, 1916, p. 133.

*M. mearesi*, p. 45.

The type, as cited by Westwood, was in the Parry collection, which was dispersed by auction-sale, and the particular "lot" comprising this specimen was bought by Mr. R. Oberthur, in whose possession it should now be found.

*Cyphonocephalus smaragdulus*, p. 69.

Reference to Westw., Trans. Ent. Soc. Lond., 1878, p. 29, pl. 1, figs. 3, 4, is omitted.

*Torynorrhina distincta*, p. 82.

Var. *pilipes*, Burm. Handb. Ent. iii, p. 779; Westw., Arcana Ent. i, p. 120 and 192, is omitted from the synonymy. This is the brassy green variety and usually has the legs tinged with blue.

*Rhomborrhina microcephala*, p. 87.

Var. *staudingeri*, Nonf. Stett. Ent. Zeit., 1890, p. 17, is omitted. Nonfried described this as a variety of *micro-*



*cephala*, but the description applies to the typical form, and the name therefore sinks as a synonym.

The specimen bearing the "Type" label from the Parry collection, cited by Westwood, is in my possession.

*Heterorrhina sinuatocollis*, p. 96.

The type is incorrectly stated to be in the Paris Museum. The specimen described and figured by Westwood (as a variety of *elegans*, Fab.), as cited by him, was in the Parry collection, and is now in my possession. It bears Parry's "Type" label, and must be regarded as the type of this species, Westwood's description taking priority over that of *smaragdina*, Burn. (*nec* G. P.), and it is the type of the latter that is in the Paris Museum.

*Anatona alboguttata*, p. 115.

Reference to Westw., Trans. Ent. Soc. Lond., 1874, p. 476, pl. 7, fig. 4, is omitted.

*Glycyphana minima*, Bates, Entomologist, xxiv, 1891, Supp. p. 21.

This species, founded on a single specimen stated to have been received from Captain G. Young, from the Hill region of Kulu, North-western India, is omitted. Mr. Arrow informs me that he doubts the correctness of the locality assigned to it, and believes it will prove to be of Malayan origin. I have at present seen nothing from India that agrees with the description.

*Goliathopsis despectus*, p. 206.

The type of this species is undoubtedly the specimen in the Oxford Museum, which I have examined and found to agree with Westwood's description and figures. It, moreover, has the mouth-parts extracted and mounted on a card beneath the specimen, as is usually the case with the Westwoodian types. I have before stated (Cist. Ent. ii, 1881, p. 610) that Westwood's figures were evidently not made from the specimen that is in the British Museum.

The examination of the type of *despectus* has shown me that *cervus*, Jans., is not the same species. In comparing the two forms (the female type in both cases) I find that in *cervus* the clypeus is more broadly and strongly reflexed at the apex (especially at the sides, where it projects in an obtuse angle), the prothorax is conspicuously larger and

more convex and has the basal angles more prominent; it is also of an altogether stouter and more robust form than *despectus*, and the mouth-parts differ, as will be seen on comparing the figures that accompany the original descriptions of both species.

The following that have been relegated by the author to the rank of varieties and synonyms, have, I consider, sufficient distinctive features to warrant their retention as species :

*Cyphonocephalus smaragdulus*, Westw., sunk under *C. olivaceus*, Dup., p. 69.

*Heterorrhina mitrata*, Wall., sunk under *Diceros dives*, Westw., p. 72.

*Glycyphana subcincta*, Jans., sunk under *G. torquata*, F., p. 124.

*Protaetia aerata*, Er., sunk under *P. orientalis*, G. P., p. 143.

*Clinteria valida*, Lansb., sunk under *C. auronotata*, Bl., p. 179.

*Clinteria decora*, Jans., sunk under *C. klugi*, Hope, p. 187.

*Agestrata samson*, Sharp, sunk under *A. orichalcea*, L., p. 192.

*Goliathopsis cervus*, Jans., sunk under *G. despectus*, Westw., p. 206.